

LEWIS  
AND  
ROCA  
LLP  
LAWYERS

Alana C. Hake  
Associate  
40 North Central Avenue  
19th Floor  
Phoenix, Arizona 85004-4429

ORIGINAL  
RECEIVED



0000118274

DIRECTOR: 002/04/0900  
AHake@LRLaw.com  
Admitted in: Arizona

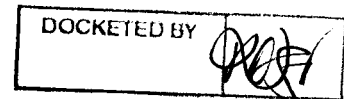
2010 SEP 22 P 4: 50

Our File Number: 51170-00001

Arizona Corporation Commission

DOCKETED

SEP 22 2010



Via Hand-Delivery

September 22, 2010

Arizona Corporation Commission  
Utilities Division - Docket Control  
1200 W. Washington Street  
Phoenix, Arizona 85007

Re: SolarReserve, LLC  
Docket No. E-00000D-09-0020

Docket Control:

On behalf of SolarReserve, LLC, we respectfully submit the attached plan ("Plan") for the proposed Crossroads Solar Energy Project (the "Project") in accordance with A.R.S. § 40-360.02(A). The Project includes both a 150 MW concentrating solar power plant (the "Power Plant") and associated 230 kV transmission interconnection tie line (the "Gen-Tie"). The Plan addresses both the Power Plant and the Gen-Tie. As such, the Plan was submitted June 30, 2010, to Docket No. E-00000M-08-0170 pursuant to A.R.S. § 40-360.02(B). Because the Project includes a 230kV transmission line, Solar Reserve is filing the Plan in the above-referenced ten-year plan docket to provide notice of the Project in this docket as well.

Sincerely,

Alana C. Hake

AH/jw  
Enclosure

PLAN  
for the  
CROSSROADS SOLAR ENERGY PROJECT

Submitted by SolarReserve, LLC  
June 30, 2010

Pursuant to A.R.S. §40-360.02, SolarReserve, LLC hereby submits its plan ("Plan") for the proposed Crossroads Solar Energy Project (the "Project").

The Project includes a 150 MW concentrating solar power plant (the "Power Plant") and associated 230 kV transmission interconnection tie line (the "Gen-Tie"). This Plan covers both the Power Plant and the Gen-Tie. The specific items required by A.R.S. §40-360.02(C) are set forth below:

**1. The size and proposed route of any transmission lines or location of any plant proposed to be constructed:**

- A. The Power Plant will be located in Maricopa County, Arizona, on four sections of private farm land (approximately 2,560 acres), approximately 1.25 miles north of the intersection of Interstate 8 and Paloma Road, and approximately two miles west of the Gila Bend town limits. Attached is a map showing the location.

The Power Plant uses concentrating solar power (CSP) technology provided by the Pratt & Whitney Rocketdyne division of United Technologies Corporation, and is equipped with an integral thermal energy storage system. The technology generates power from sunlight by first focusing energy from a field of sun-tracking heliostat mirrors onto a central receiver. Liquid salt, which flows like water when melted, is circulated through the receiver and collects the energy gathered from the sun. The heated salt is then routed to an insulated tank where it is stored with minimal energy losses. When electricity is to be generated, the hot salt is pumped to heat exchangers to produce steam used to generate electricity in a conventional steam turbine cycle. The salt is then sent to a cold salt storage tank, where it will be ready to be reused again. The liquid salt storage technology was demonstrated successfully in the 1990s at the U.S. Department of Energy-sponsored "Solar Two" project near Barstow, California.

- B. In addition to the Power Plant, the Project will include an approximately 6.5-mile-long 230kV transmission line Gen-Tie for interconnection to the existing APS-owned Gila Bend Substation. The precise route of the Gen-Tie has not yet been determined.

**2. The purpose to be served:**

- A. The Project would help the State of Arizona to meet its renewable energy standards. The Project will more specifically provide solar energy to an Arizona-based load-serving entity, thereby helping it meet its renewable energy standard requirements and diversify its resource portfolio. SolarReserve will also continue to evaluate alternatives for the Project to export power out of state.

Additionally, a positive socioeconomic effect is expected to result from the development by providing short- and long-term job opportunities in the area, tax benefits to Maricopa County, and local economic activity from Project workers spending money at local businesses.

- B. The proposed Gen-Tie would enable delivery of the Power Plant's electricity by interconnecting the Power Plant to the APS Gila Bend Substation. It would also potentially back-feed power to the Project site for construction and operations.

**3. The estimated date by which the transmission line and plant will be in operation:**

The Project is estimated to be in commercial operation by the summer of 2014.

**4. The average and maximum power output measured in megawatts of each plant to be installed:**

The average and maximum power output of the Project is 150 MW, and the Project is expected to deliver approximately 450,000 MWh of energy annually.

**5. The expected capacity factor for each proposed plant:**

The plant's expected capacity factor is 35%.

**6. The type of fuel to be used for each proposed plant:**

During the initial commissioning phase, a fuel such as natural gas or propane will be used to melt and condition the salt for use as a heat transfer fluid; however, throughout the 30+ years of commercial operation, solar thermal energy will be the only fuel used to generate electricity.

**7. The plans for any new facilities shall include a power flow and stability analysis report showing the effect of the current Arizona electric transmission system. Transmission owners shall provide the technical reports, analysis or basis for projects that are included for serving customer load growth in their service territories.**

SolarReserve submitted an Interconnection Request to Arizona Public Service Company in March 2009. The original request specified a 250 MW generator output although the Project is now planned for 150 MW.

Attached is the September 2009 North Gila/Gila Bend Group Interconnection Feasibility Study ("Feasibility Study") prepared by APS. Because there were several simultaneous interconnection requests in both the Hassayampa/North Gila and Gila Bend/Gila River areas, APS grouped several studies into the regional Feasibility Study, which included a power flow analysis and short circuit analysis. In the Feasibility Study, the Project is identified as Q63. The Feasibility Study is being provided to the ACC Utilities Division Staff. The cost estimates have been redacted and are considered confidential.



# CROSSROADS SOLAR ENERGY PROJECT

